

ABSTRACT OF THE DISCLOSURE:

A quantum semiconductor device including quantum dots formed by S-K growth process taking place in a heteroepitaxial system wherein the relationship between the energy level of light holes and the energy level of heavy holes in the valence band is changed by optimizing the in-plane strain and the vertical strain accumulated in a quantum dot.

AMENDMENTS TO THE ABSTRACT:

Delete the current Abstract and replace therewith the attached substitute Abstract.

ABSTRACT OF THE DISCLOSURE

A quantum semiconductor device ~~includes~~ including quantum dots formed by S-K growth process taking place in a heteroepitaxial system wherein the relationship between the energy level of light holes and the energy level of heavy holes in the valence band is changed by optimizing the in-plane strain and the vertical strain accumulated in a quantum dot.